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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/214,865	01/14/99	TAKISHITA	Y 052837

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EXAMINER	
KIM,P	
ART UNIT	PAPER NUMBER
2857	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/214,865	Applicant(s) TAKISHITA, YOSHIHIKO	
	Examiner Paul Kim	Art Unit 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☒ Claim(s) *24, 25, 29, and 30* is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 1999* is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other: .

DETAILED ACTION

Content of Specification

(a) Title of the Invention: See 37 CFR 1.72(a). The title of the invention should be placed at the top of the first page of the specification. It should be brief but technically accurate and descriptive, preferably from two to seven words.

(b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

(c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

(d) Reference to a "Microfiche Appendix": See 37CFR 1.96(c) and MPEP § 608.05. The total number of microfiche and the total number frames should be specified.

(e) Background of the Invention: The specification should set forth the Background of the Invention in two parts:

(1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

(2) Description of the Related Art: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(f) **Brief Summary of the Invention**: A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the

inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(g) Brief Description of the Several Views of the Drawing(s): A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(h) Detailed Description of the Invention: A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. This item may also be titled "Best Mode for Carrying Out the Invention." Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet. (37 CFR 1.52(b)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps.

(j) Abstract of the Disclosure: A brief narrative of the disclosure as a whole in a single paragraph of 250 words or less on a separate sheet following the claims.

(k) Drawings: See 37 CFR 1.81, 1.83-1.85, and MPEP § 608.02.

(l) Sequence Listing: See 37 CFR 1.821-1.825.

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

On page 17, lines 5-6, the phrase, "surface of a flat portion of the water tank" is unclear. A water tank typically has several flat portions.

Claim Objections

2. Claims 24-25, 29, and 30 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another dependent claim. See MPEP § 608.01(n). Accordingly, these claims have not been further treated on the merits.

Information Disclosure Statement

The information Disclosure Statement, (PTO-1449), filed by the applicant is not present in the file. However the application has been examined.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 16 and 17 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. In claims 16 and 17, the phrase, "exciting" in lines 3 and 11 is not described in the specification. Also, the phrase, "...collecting at least *either* of data output from said ultrasonic transmission/ reception circuit *and* data output..." was not adequately described in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14, 16-20, 28, and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. In claim 14, the phrase "said data comprises probe data reception data means" is indefinite. Data cannot comprise something physical.

7. In claim 16 and 17, the phrase, "...collecting at least *either* of data output from said ultrasonic transmission/ reception circuit *and* data output..." are not enabling. "Exciting" and "excitation means" in various places, such as lines 3, are indefinite.

8. Claims 18-20 are rejected because they are dependent on a rejected claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3, 8, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated over Weiss.

With regard to claim 1, Weiss teaches an ultrasonic tire testing apparatus with several ultrasonic transducers or probe systems networked together (fig. 10), a computer (part 176; col. 12 lines 3-4) with storage or memory, and data collection means (col. 11, lines 2-5). Weiss teaches that each ultrasonic unit has transmission lines (parts 166, 168, and 170) connecting to the main unit (164). Weiss does not mention a body, but it is considered inherent that the inspection system of Weiss contains a body to protect its components against dust.

10. With regard to claim 2, Weiss teaches an ultrasonic testing apparatus with a means of analyzing a specimen of any of the transducers or probes (col. 11, lines 6-9).

11. With regard to claim 3, Weiss teaches individual inspection systems with determination means for analyzing an individual probe (col. 10, lines 19-24) and host computer collects this result (col. 11, lines 2-6).

12. With regard to claims 8, Weiss teaches an ultrasonic testing network with a capability to obtain recent specimen data, compute specimen data averages, and compare this average to a predetermined threshold (col. 11, lines 16-58).

13. With regard to claim 14, Weiss teaches a reception means for receiving data of a probe (parts 156, 158, 160, 162).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 4-7, 9-13, and15-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss in view of Takashita, Senba, Ishihara, and Shinomura.

With regard to claims 4 and 6, Weiss teaches a probe connected to the inspection system (fig. 10). Weiss does not teach the inspection system performing separate tests with the probe attached to the main body and the probe not attached to the main body. The examiner takes official notice that it is well known in the art to perform separate tests with probe attached to main body and unattached to main body in order to pinpoint whether the problem is the probe or the system itself.

15. With regard to claims 5, 7, and 18, Weiss does not mention an on/off switch device. The examiner takes official notice that it is well known in the art to include a switch device for turning on and off the probe in order to connect or disconnect the probe to and from the main body.

16. With regard to claims 11 and 13, Weiss does not teach individual inspection systems that compute averages of data and compare them to a reference. Takashita teaches an inspection system that computes averages of data, compares this data to a reference, and stores this data (col. 8, line 55 to col. 9, line 17). It would have been obvious to one of ordinary skill in the art at the time of the inventions, to modify Weiss

so that the individual systems, as well as the ultrasonic testing network, could calculate data averages in order to relieve processing burdens on the host or main computer.

17. With regard to claim 10, Weiss teaches an ultrasonic testing network with a capability to obtain specimen data, compute data averages, and compare this average to a predetermined threshold (col. 11, lines 16-58).

18. With regard to claims 9, 10, 12, and 13, Weiss does not teach inspection systems that compare rate of data change to a threshold value. Ishihara teaches a magnetic resonance imaging apparatus that uses ultrasonic waves (col. 5, lines 20-23) and compares data rate of change with a threshold value (col. 8, lines 35-42). Ishihara teaches storing this data in a memory (col. 4, lines 20-24). It would have been obvious to one of ordinary skill in the art at the time of the invention, to modify Weiss so that the inspection system would calculate a rate of data change and compare this to a predetermined value, because doing so would give a person the idea of the rate the treads are separating from the tire.

19. With regard to claim 15, Weiss does not teach individual inspection systems with component data reception means. Senba, as best as can be determined by the reference, teaches an ultrasonic inspection system that self-inspects its own components (abstract). It would have been obvious, to those with ordinary skill in the art at the time of the invention, to modify Weiss' inspection system network so that it can inspect its own components in order to minimize breakdowns.

20. With regard to claims 16, 17, and 31, Weiss teaches individual inspection systems having a transmitting (fig. 4) and receiving circuit (part 156, 158, 160, and 162).

Weiss teaches a means for exciting the probe (col. 7, lines 29-38). Weiss, however, does not teach individual inspection systems having a control circuit, waveform processing circuit, and storage means. Takashita teaches an individual inspection system having the, control circuit (part 22 and 25), storage means (part 20e), and waveform processing circuit (part 17, 26, 28, and 29). Takashita teaches means for collecting output of both waveform and transmission/ reception circuit (col. 5, lines 5-13 and 34-38). It would have been obvious, to those with ordinary skill in the, art at the time of the invention, to modify Weiss' inspection system network so that individual inspection systems contain a control circuit, waveform processing circuit, and storage means, as taught by Takashita, in order to ease the processing burden of the main or host computing unit.

21. With regard to claims 16, 17, and 19, Weiss teaches a means of positioning the probe in a suitable location on the apparatus (col. 5, lines 32-36).

22. With regard to claims 20 and 33, Weiss does not teach individual inspection systems having a display section to display determination results. However, the ultrasonic inspection network of Weiss has a main display. It would have been obvious, to those with ordinary skill in the, art at the time of the invention, to add a display to each individual inspection system in order to view data information of each inspection system separately.

23. With regard to claims 21, 26, and 31, Weiss teaches individual inspection systems with transmit and receive functions (col. 9, line 67 to col. 10, line 14) and the ability to inspect ultrasonic probes based on received signals (col. 12, lines 7-11).

24. With regard to claims 21, 22, 23, 26, 27, 28, 31, and 32, Weiss does not teach individual inspection systems with a function to inspect ultrasonic probes or storing ultrasonic probe data on external storage medium. Shinomura teaches storage of a probe data at manufacturing time, inspecting the probe, and storing probe data during each re-inspection (col. 11, last paragraph to col. 12, line 23). It would have been obvious to those with ordinary skill in the art at the time of the invention, to modify Weiss' invention so that the inspection systems has the ability to inspect the probes because combining the functions of inspecting the specimen and probes with one system would save the time and effort it would take to use a separate system to perform the probe inspection task.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jaeger et al. discloses a system for testing a digital eddy current probe by measuring the impedance and phase angle from probe signals. These signals are compared to reference values to determine condition.

Miller et al. discloses a method of calibrating the output of an ultrasonic system by providing a method and calibration block where the output of an ultrasonic inspection system can be accurately calibrated for standardization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is 703-305-7468. The examiner can normally be reached on M-F, 10:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached at 703-305-1710. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

PK
May 7, 2001

MARC S. HOFF
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